

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
17 March 2005 (17.03.2005)

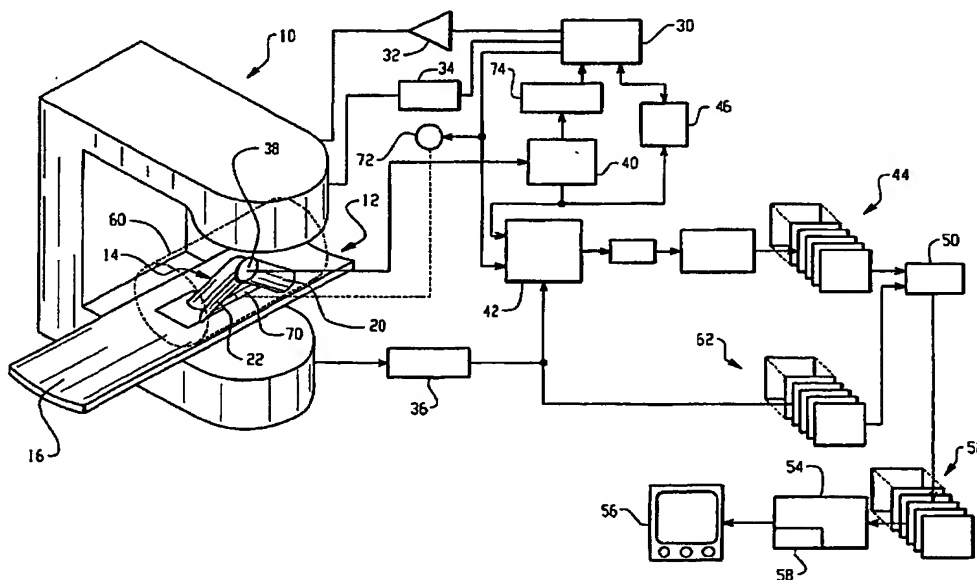
PCT

(10) International Publication Number  
**WO 2005/024450 A1**

- (51) International Patent Classification<sup>7</sup>: **G01R 33/567** (74) Common Representative: **KONINKLIJKE PHILIPS ELECTRONICS, N.V.**; c/o LUNDIN, Thomas, M., 595 Miner Road, Cleveland, OH 44143 (US).
- (21) International Application Number: PCT/IB2004/051611
- (22) International Filing Date: 30 August 2004 (30.08.2004)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:  
60/501,176 8 September 2003 (08.09.2003) US
- (71) Applicant (for all designated States except US): **KONINKLIJKE PHILIPS ELECTRONICS, N.V.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (71) Applicant (for AE only): **U.S. PHILIPS CORPORATION** [US/US]; 1251 Avenue of the Americas, New York, NY 10020 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): **DE GRAAF, Frits, A.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL). **VAN DEN BRINK, Johan, S.** [NL/NL]; Groenewoudseweg 1, NL-5621 BA Eindhoven (NL).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

[Continued on next page]

(54) Title: RETROSPECTIVE TRIGGERED MRI OF ACTIVE OR PASSIVE JOINT MOTION



(57) Abstract: A subject is placed on a patient support (16) with a bodily structure, such as a joint, within an imaging region (12) of a magnetic resonance imager (10). The bodily structure is moved continuously back and forth through a series of motion states, either manually or under power (70, 72). Encoded magnetic resonance data is distributed (42) into motion state windows. Data with phase encodings near the center of k-space are distributed accurately into the corresponding motion state window; whereas, data phase encoded near the edge of k-space is distributed with less accuracy and may be duplicated and shared among several motion state windows. Data from each motion state window are reconstructed (50) and displayed (56) in a cine mode representing continuous motion.

**Declaration under Rule 4.17:**

— as to applicant's entitlement to apply for and be granted a patent (Rule 4.17(ii)) for the following designations AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, UZ, VC, VN, YU, ZA, ZM, ZW, ARIPO patent (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ,

BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG)

**Published:**

— with international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.